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ISO/TC 102/SC 2 - 12th INTERNATIONAL MEETING
PARIS, FRANCE, 1984 - 10 - 15/19

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by

R. Sutarno*

This report covers that part of the proceedings of the 12th International Meeting of ISO/TC 102/SC 2 dealing with the work of ISO/TC 102/SC 2/WG 12B (Working Group on Evaluation of Statistical Data for the Technical Committee 102 - Iron Ores, Subcommittee 2, Chemical Analysis). Other topics discussed at the meeting will be reported by the leader of the Canadian delegation.

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12e RÉUNION INTERNATIONALE - ISO - CT 102/SC 2
PARIS, FRANCE, 1984 - 10 - 15-19

par

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RÉSUMÉ

Ce rapport présente les délibérations portant sur le travail de l'ISO - CT 102/3C 2/WG 12B (Groupe de travail du Comité technique 102 sur l'évaluation des données statistiques - Minerai de fer, Sous-comité 2, Analyse chimique) qui ont eu lieu lors de la 12e Réunion internationale de l'ISO - CT 102/SC 2. Le chef de la délégation canadienne donnera un compte rendu des autres thèmes qui ont fait l'objet de discussions.

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I. ISO/TC 102 EDITING COMMITTEE MEETING, 1984 - 10 - 15

The meeting was held at AFNOR and was attended by the following delegates:

E.S. Pilkington - Australia, Chairman of Editing Committee
M.G. Jecko - France, Chairman of ISO/TC 102/SC 2
Y. Kimura - Japan, Secretariat of ISO/TC 102 (staff member)
N. Nishida - Japan, Secretariat of ISO/TC 102
B. Moreau - ISO Central Secretariat
M. Seno - Japan, Member of ISO/TC 102/SC 2/WG 12B
R. Sutarno - Canada, Convener of ISO/TC 102/SC 2/WG 12B
T. Marobuse - Japan, Interpreter

Two groups of topics were discussed.

(1) Current status of all unpublished SC 2 documents

Currently, there are fifteen draft standard documents that are waiting for publication. All of these documents have been completed by SC 2 for a few years, two of them since 1974. This long delay between the technical development and the publication of the standards is becoming a concern to the subcommittee. There is no one factor that can be identified as the cause of this delay. Both the Central Secretariat and the Secretariat of TC 102 promised to solve this problem as soon as possible.

(2) Editorial matters concerned with statistical data

This agenda dealt with the incorporation of statistical data, generated during the development, into the standard method. This includes the expression of the precision of the method, the safeguard against possible bias, the definition of independent analytical results and the procedure to obtain final results. All of these will be incorporated into each standard document.

II. ISO/TC 102/SC 2 MEETING

The work of WG 12B during the past period (1982/84) has been (a) to finalize the working group procedure used within the subcommittee and (b) to process all analytical data generated by all working groups within the subcommittee.

(1) Working group operating procedure

Both documents on working group operating procedure (2 N 769 E) and the procedure for statistical evaluation of analytical data resulting from international tests (2 N 768 E) have been accepted. The objections raised by the UK on both documents, i.e., on working group time schedule and on the discrepancy with ISO 5725, have been resolved. These documents will be published as ISO Technical Committee Reports (Resolutions 3 and 4). The only technical modifiction to be made on the above documents was on the definition of the independent determination. This definition will be changed to comply with that agreed to at the editorial committee meeting (Resolution 2).

(2) Centralized data processing

During the past period (1982/84), twelve international tests were conducted by the subcommittee. Data generated by these tests were processed by WG 12B to evaluate the precision and accuracy of the analytical method. These precisions and accuracies were used, in conjunction with other factors (chemical factors), to determine the acceptability of the method as an ISO standard. In addition, these data together with data generated during the previous periods (since 1972) are stored in a computer data base at EMR computing facilities. A summary of this data base was appended to the WG 12B report distributed at the meeting. This summary was found to be useful to compare precisions of various methods. A total of 12 methods were discussed at the meeting; the following are the decisions made with regard to those methods:

(a) The following methods were accepted as standards:

(1) Determination of Fe-total by $TiCl_3$ reduction

(2) Determination of Fe-total by $TiCl_3$ reduction and perchloric acid oxidation

Note: (1) and (2) will be published as one standard.

(3) Determination of Fe-total by Ag reduction

(4) Determination of water soluble chlorides

(5) Determination of Fe^{+2} by titrimetric method

(6) Determination of various elements in iron ores by XRF method with the exception of iron.

(b) The development of the following methods has advanced to stage B and precision experiments will be conducted in the coming period.

(1) Determination of V by atomic absorption method

(2) Determination of V by BPHA

(3) Determination of Ni and Cr by atomic absorption method

(4) Determination of P by spectrophotometric method

(5) Determination of Mn by atomic absorption method

(c) The development of the following method is still be at stage A

(1) Determination of C and S in direct reduced iron ores. The effort will be concentrated on the DRI product.

In addition another working group was formed (WG 28A) to develop a standard method for the determination of P by molybdenum blue spectrophotometric method. This is a modified version of the method described in clause b (4) above.

The delegates were pleased with the result of central data processing and wished to continue this process. It is expected that at least six international tests will be conducted during the coming period (1984/86). The mandate of WG 12B was extended for a further two years.

ITEM FOR ACTION BEFORE THE MINUTES ARRIVE

To send copies of documents 2 N 768 E and 2 N 769 E, modified to take into account editorial comments made at the meeting, to the Secretariat for publication as Technical Committee reports.

CONCLUSIONS

During the past period (1982/84), ISO/TC 102/SC 2 has been very active. An unprecedented number (12) of international tests were conducted. The largest of these tests (XRF by WG 15 A) involved the participation of 27 laboratories, each of which analysed 10 test samples for 15 elements. Two to three weeks of work was involved by each laboratory. All of these international tests were completed in time for the meeting. The contribution of WG 12B has been in designing the experiments as well as evaluating the results. The result of these activities was the acceptance of six analytical methods including XRF (except for total iron) as standards. Although a large number of analytical methods have been developed into standards, there is still plenty of work yet to be done by the subcommittee. The requirement of analytical methods for environment control, the creation of SC 5 (Direct reduced iron ores) and the emergence of new techniques for chemical analysis of iron ores will keep the subcommittee busy for some time in the future. All of these are important for Canada as one of the world's major iron ore producing countries. For this reason it is recommended that Canada continues to support the work of the Technical Committee and the convenership of ISO/TC 102/SC 2/WG 12B.

RESOLUTIONS TAKEN AT THE 12th MEETING OF ISO/TC 102/SC 2 DEALING WITH WG 12B ACTIVITIES

RESOLUTION No. 2

ISO/TC 102/SC 2 agreed to include the following wording for the number of determinations in all standards being prepared by the subcommittee whenever predried samples are used.

The analysis shall be carried out at least in duplicate, in accordance with Annex C, independently, on one predried test sample.

NOTE - The expression "independently" means that the second and any subsequent result is not affected by the previous result(s). For this particular analytical method this condition implies that the repetition of the procedure shall be carried out either by the same operator at a different time, or by a different operator, including, in either case, appropriate recalibration.

RESOLUTION No. 3

ISO/TC 102/SC 2 agreed to accept in principle Doc. N 769 relating to WG operating procedures, subject to comments made during the meeting. The document will be revised by the convener of WG 12 and submitted to the SC 2 secretariat for preparation as an ISO/TC 102 Technical Committee Report.

RESOLUTION No. 4

ISO/TC 102/SC 2 agreed to accept in principle the procedure for the statistical evaluation of analytical data resulting from international tests (Doc. N 768), subject to comments made during the meeting. The document will be revised by the convener of WG 12 and submitted to the SC 2 secretariat for preparation as an ISO/TC 102 Technical Committee Report.

RESOLUTION No. 5

ISO/TC 102/SC 2 agreed that the mandate of WG 12 be extended for a further 2 years, particularly to maintain the continuity of centralized data processing. The delegates also wished to record their further appreciation of the excellent work in this area being carried out by Mr. Sutarno of the Canadian member body.